Claims

1. A vibrating power toothbrush having a handle portion, comprising:

a first vibrating arm portion, having a brushhead mounted at a free end portion thereof;

a second vibrating arm portion, connected to an opposing end of the first arm portion by a connecting element, wherein the first and second arm portions have first and second natural resonant frequencies;

a spring member connecting the second arm portion in the vicinity of a free end thereof to the first arm portion;

an actuator connected between the first and second arm portions; and

a switch element for selectively applying a DC voltage to the actuator, wherein in operation, when the switch is closed, the first arm portion is drawn toward the second arm portion by the actuator, which compresses the spring element and opens the switch element, and wherein return action of the spring when the switch element is open moves the first arm portion away from the second arm portion to the point where the switch again closes, resulting in a back-and-forth movement of the brushhead.

2. A toothbrush of claim 1, wherein the actuator element is a solenoid, having a coil portion connected to the second vibrating arm portion and a movable plunger portion connected to the first vibrating arm portion.

3. A toothbrush of claim 1, including a DC battery for supplying said DC voltage.

4. A toothbrush of claim 1, wherein the first arm portion, the second arm portion and the connecting element comprises a single, continuous element, with the connecting element acting as a hinge between the first and second arm portions.

5. A toothbrush of claim 3, wherein the switch element is a contact switch having a first contact portion connected to the battery and mounted to a handle portion of the toothbrush, and a second contact portion mounted to a surface of the first arm portion.

6. A toothbrush of claim 1, including a nodal mount element connecting the spring element at a selected position therealong to the handle.

7. A vibrating toothbrush which includes a brushing pressure feedback capability, comprising:

an arm portion on which is mounted a brushhead at a free end thereof;

a driving assembly for moving the arm portion and hence the brushhead in a manner to clean teeth;

a spring element connected between the driver assembly and the arm portion; and

a nodal mount connecting the spring element to the handle at a preselected position therealong, wherein the preselected position is such that when the brushhead is loaded with a preselected correct amount of brushing pressure, vibration transmitted to the handle through the nodal mount is significantly reduced, indicating to the user that a correct brushing pressure is being used.

8. A toothbrush of claim 7, wherein the spring element is a coil spring.

9. A toothbrush of claim 7, wherein the spring element is a leaf spring.

10. A toothbrush of claim 7, wherein the nodal mount is a spring mount.

11. A toothbrush of claim 7, wherein the nodal mount is a non-resilient firm mount.

12. A toothbrush of claim 7, wherein the application of brushing pressure to the brushhead against teeth of a user changes the natural resonant frequency of the arm portion so as to shift the point of reduced vibration along the spring element, and wherein when the brushing pressure is correct, the point of reduced vibration is at the nodal mount point.

13. A toothbrush of claim 7, wherein the spring element is one spring.

14. A toothbrush of claim 7, wherein the spring element is two springs, separated by the nodal mount.